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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/826,312	04/19/2004	Paul B. Corkum	PAT 892-2 US	9811

26123 7590 04/18/2006

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EXAMINER

DUPUIS, DEREK L

ART UNIT PAPER NUMBER

2883

DATE MAILED: 04/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/826,312

Applicant(s)

CORKUM ET AL.

Examiner

Derek L. Dupuis

Art Unit

2883

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 April 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 16-28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 April 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date 7/20/2004.
- 4) ☐ Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election with traverse of the election of species requirement in the reply filed on 4/10/2006 is acknowledged. The traversal is on the ground(s) that Species A and Species B are not independent or distinct and that Sub-Species X and Sub-Species Y are not independent or distinct. Accordingly, the examiner has withdrawn the election of species requirement.

2. Claims 16-28 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Applicant timely traversed the restriction (election) requirement in the reply filed on 4/10/2006.

Applicant argued only the election of species requirement which has since been withdrawn. Applicant did not argue the restriction requirement. Therefore, the restriction requirement is still deemed proper and is therefore made FINAL.

### ***Information Disclosure Statement***

3. The information disclosure statement (IDS) submitted on 7/20/2004 has been considered by the examiner.

### ***Drawings***

4. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because many of the labels are hand-drawn and because figure 10 is too dark to properly distinguish the key features of the figure. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action

to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1, 3-10, 13, and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by

***Flory et al (US 2004/0126055 A1).***

7. Flory et al teach an optical connector comprising a three-dimensional optically-transmissive bulk dielectric (31) with an input (32) path and an output path (33, 34) written within the bulk dielectric (31). The input path (32) and the output path (33, 34) are connected so as to transmit a light signal between an input component and an output component. The three-dimensional bulk dielectric is a prism as seen in figures 1 and 2. The connection paths are waveguides and the connection paths are bent as shown in figure 2. Flory et al also teaches that the connection path can be a straight through path. The photonic structure results in local modifications in the refractive index thus creating the waveguiding structure. The photonic crystal waveguide has a high degree of efficiency with low losses including a low loss at a 90 degree bend. Flory et al also teach that a plurality of connection paths can be written within the bulk dielectric to connect multiple inputs and outputs. See paragraphs 4, 5, 26-30, and 54-57.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 2, 11, 12, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Flory et al (US 2004/0126055 A1)* as applied above to claims 1, 3-10, 13, and 14.

10. Flory et al teach an optical connector as discussed above. Flory et al do not explicitly teach that the bulk dielectric material is made of glass. However, it would have been obvious to one of ordinary skill in the art at the time of invention was made to use glass as the dielectric material since the examiner takes official notice of the equivalence of glass and other dielectric materials for their use in the optics art and the selection of any of these known equivalents to form a waveguiding structure would within the level of ordinary skill in the art.

11. Flory et al teach that the bent connection path includes two orthogonal (90 degree) waveguides disposed in the bulk dielectric. However, Flory et al do not explicitly teach that the connection between the waveguides is a TIR connection with a polished surface. Applicant has admitted in the reply filed on 4/10/2006 that “the selection of a TIR connection or a photonic crystal structure are well-known equivalents for providing a bent waveguide while limiting bending losses at the turn.” Therefore, the selection of any one of these admitted equivalents would be “a matter of design preference” and one of ordinary skill in the art would have found it obvious to substitute a TIR connection for a photonic crystal structure.

Art Unit: 2883

12. Flory et al teach that multiple connection paths can be duplicated in the bulk dielectric. It would have been obvious to one of ordinary skill in the art at the time of invention to use a plurality of stacked connectors to form a connector assembly since it has been held that the mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

### ***Conclusion***

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. *Wilson et al (US 2003/0161577 A1)* could be applied as prior art under 35 U.S.C. 102(e) for at least claim 1. *Charlton et al (US 6,778,746 B2)* could be applied as prior art under 35 U.S.C. 102(e) for at least claim 1. *Allan et al (US 6,674,949 B2)* could be applied as prior art under 35 U.S.C. 102(e) for at least claim 1. *Cotteverte et al (US 2002/0048422 A1)* could be applied as prior art under 35 U.S.C. 102(e) for at least claim 1.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Derek L. Dupuis whose telephone number is (571) 272-3101. The examiner can normally be reached on Monday - Friday 8:30am-4:30pm.

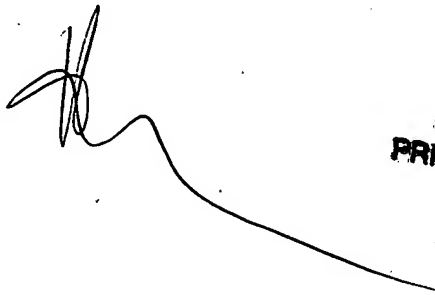
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2883

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Derek L. Dupuis  
Group Art Unit 2883



**KAVEH KIANNI  
PRIMARY EXAMINER**